DOCUMENT RESUME

ED 176 303 CS 205 145

AUTHOR Bowers, F.
TITLE The Derivation and Use of Sentence Formulae in Composition.
PUB DATE May 79
NOTE 11p.; Paper presented at the Annual Meeting of the Canadian Council of Teachers of English (12th, Ottawa, Canada, May 8-11, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Composition (Literary); Descriptive Writing; *Discourse Analysis; Form Classes (Languages); Higher Education; Narration; Secondary Education; *Sentences; *Sentence Structure; Structural Analysis

ABSTRACT

Formulae in composition can be derived and applied through a three-part process: first, analyzing passages and deriving formulae; second, writing sentences from formulae; and third, writing a composition using only sentences derivable from the formulae. Student participation in all three parts provides better motivation and demonstrates to students that grammatical terminology and analysis have some practical point. To analyze composition, a short passage that clearly performs the function for which it was intended is selected. Each sentence of the passage is then copied on a separate file card and every finite verb structure is underlined. The kinds of sentences used are identified, with the main clauses of complex and compound sentences marked. Finally, each main clause is analyzed into its principal constituents along with accompanying structures. Once all sentences have been analyzed and sorted into similar clause structures, the optional structures which accompany the most frequent main clause in the passage are identified, and a formula is written which briefly expresses all this information. Students practice writing single sentences from the formulae until the process is clear, and then write their own compositions. From an examination of many passages of different functions, it is clear that there is a close correlation between function, sentence structure, and distribution of sentence kinds, and the formulae and proportions of use merely reflect the style of each function. (AEA)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED176303

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY.

C. C. T. E. CONFERENCE

OTTAWA

MAY 1979

THE DERIVATION AND USE OF SENTENCE FORMULAE IN COMPOSITION

F. Bowers
English Department
University of British Columbia
Vancouver, B.C.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
F. Bowers

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CS005145

The use of forms and formulae in composition has a long history and sound theoretical support.[1] So, rather than repeat arguments for the usefulness of formulae, this paper will presuppose it and merely demonstrate how formulae may be derived and applied.[2] The principle to be explained is one of analysis and resynthesis whereby a piece of writing of the kind which is to be written by the student is analysed into basic sentence formulae, which, in turn, are used as the patterns for sentences in the student's own composition. The process is tripartite: first, analysis and derivation of formulae; second, writing sentences from formulae; third, writing a composition using only sentences derivable from the formulae. The second and third of these steps are assignments for the students; the first may be the teacher's own preparatory task or may be a shared task between teacher and student. Personal experience with freshmen in remedial composition classes persuades me that student participation in all three parts provides better motivation and actually demonstrates to students that grammatical terminology and analysis have some practical point. My own experience is confirmed by that of others whom I have asked to test the procedure.

1. Analysis of Model Passage

First, a short passage (of about 250-300 words), which clearly performs the function for which it was intended, is selected. It is helpful if the provenance of the passage is respectable, or even prestigious, in the eyes of the students. Process and artifact descriptions from journals of popular mechanics, automobile maintenance and so on have been successful; made-up passages should be avoided.

As a sample, here is a passage on solar heating[3] which exemplifies process-description:

"Air is heated to 24°C in the combined solar cell/solar heating panels on the roof in early morning, and this heat is stored chemically in a eutectic mixture melting near 24°C. At the same time, this heat is upgraded by the heat pump and stored, chemically, in a eutectic mixture melting at 49°C. Heat is extracted from this source through a heat-exchanger to heat the house. As the temperature of the heated air rises during a sunny day, the heat pump is switched off and the air passes directly to the 49° storage. In the afternoon, as the temperature drops, the heated air is again fed into the low temperature storage. The house is heated from the high temperature storage in the early evening, the heat pump being used to upgrade the low-temperature heat only during the later off-peak electricity periods to charge up the high-temperature storage for the following day. A day's storage of high-temperature heat is provided, auxiliary electric heating being used during continuous cloudy days. The house is connected to the mains grid at off-peak periods, and at other times the solar-generated electricity is used to run appliances in the house, the batteries supplying less than a day's storage. The floor area of the house is 140 m^2, and the area of the combined solar panels on the roof is 71 m^2. In addition, six flat plate collectors are placed on the south-facing wall to provide supplementary heat during winter."

Second, each sentence is copied on a separate file-card ready for analysis.

Third, every finite verb structure is identified, for example, by underlining. Thus, sentence three will look like this on the file card:

'Heat is extracted from this source through a heat exchanger to heat the house."

This process will turn up all the clauses in the passage. (In the sample passage, there are sixteen clauses.)

Fourth, the kind of each sentence is identified and the main clauses of complex and compound sentences marked (e.g. by double underlining). The identification of sentence-kind and of main clauses is important as it provides the essential data for basic sentence formulae. In the sample passage there are five simple sentences, three compound and one each of the complex and compound-complex kinds; there are fourteen main clauses and two subordinate clauses.

Fifth, each main clause is analysed into its principal constituents along with the structures which accompany it; any grammatical notation may be used; here, the notation is that of standard transformational grammar.[4] Thus the third sentence is analysed as follows:

Heat is extracted from this source through a heat exchanger to heat the house.

Analysis: Heat is extracted from this source through a heat-exchanger

NP be V-ed prep NP prep NP

to heat the house.

to V NP

Because the essential part of any sentence is its subject-verb nucleus, it is from this part that the basic sentence is derived; the other, optional, parts of each sentence are bracketed to indicate that they may be optionally selected; thus the basic sentence formula for sentence three is:

NP be V-ed (prep NP) (prep NP) (to V) (NP)

At this point it may be useful to see the sentence-by-sentence analysis of the whole sample passage:

Sentence 1. (Compound: two main clauses)

NP be V-ed (prep NP) (prep NP) (prep NP) (prep NP)

and

NP be V-ed (adverb) (prep NP) (V-ing prep NP)

Sentence 2. (Simple)

(prep NP) NP be V-ed (prep NP) (and V-ed) (adverb) (prep NP)
(V-ing) (prep NP)

Sentence 3. (Simple)

NP be V-ed (prep NP) (prep NP) (to V) (NP)

Sentence 4. (Compound-complex; two main clauses and one subordinate)

(as NP V prep NP) NP be V-ed

and

NP V (adverb) (prep NP)

Sentence 5. (Complex: two clauses, one main, one subordinate)

(prep NP) (as NP V) NP be (adverb) V-ed (prep NP)

Sentence 6. (Simple)

NP be V-ed (prep NP) (prep NP) (NP being V-ed) (to V NP)
(prep NP) (to V NP) (prep NP)

Sentence 7 (Simple)

NP be V-ed (NP being V-ed) (prep NP)

Sentence 8. (Compound: two main clauses)

NP be V-ed (prep NP) (prep NP)

and

(prep NP) NP be V-ed (to V NP) (NP V-ing NP)

Sentence 9. (Compound: two main clauses)

NP be Adjective

and

NP be Adjective

Sentence 10 (Simple)

(prep NP) NP be V ed (prep NP) (to V NP) (prep NP)

2. Derivation of Sentence Formulae

Once all sentences have been analysed, they are sorted into similar

main clause structures; in the given passage there are eleven NP be V-ed structures, two NP be Adj structures and one NP V prep NP structure. Already it is clear that the most frequent kind is the NP be V-ed structure, so that will be one of the prime basic sentence structures.

Next the optional structures which accompany the most frequent main clause in the passage are listed as follows: (to save space let the clause NP be V-ed be represented by X)

X (prep NP) (prep NP) (prep NP) (prep NP)

X (Adv) (prep NP) (V-ing) (prep NP)

(prep NP) X (prep NP) (and V-ed) (Adv) (prep NP) (V-ing) (prep NP)

X (prep NP) (prep NP) (to V NP)

(as NP V) (prep NP) X

(prep NP) (as NP V) X (prep NP)

X (prep NP) (prep NP) (NP being V-ed) (to V NP) (prep NP) (to V NP) (prep NP)

X (NP being V-ed) (prep NP)

X (prep NP) (prep NP)

(prep NP) X (to V NP) (prep NP) (NP V-ing NP)

(prep NP) X (prep NP) (to V NP) (prep NP)

Now a formula is written which will express all this information in brief: where an optional structure is used repeatedly (for example, the prep NP structure in the first clause) it may be expressed as (prep NP)^{R}, which indicates that the structure may be used more than once; as far as non-repeated structures are concerned, they are reduced as follows: the optional items next to the constant clause are dealt with first, those occurring most frequently being first recorded; thus from the eleven structures above we derive on the first scan the following:

(prep NP) X (prep NP)^{R}

then the next most frequent structures in these nearest positions are recorded, until all are accounted for:

(as NP V) (prep NP) X (prep NP)^{R} (Adv) (NP being V-ed) (to V NP)

now, the next nearest structures to X are recorded, and so on

until every structure has been accounted for once; if a structure has been accounted for already it is not recorded a second time. The aim is to list all the optional structures in an approximate frequency and position order; a much more accurate formulae, of course, could be derived by using a primarily positional description, as is done in a formal transformational description, but experience has suggested that the method presented here is better suited to the operational needs of students. Thus the final formula derived from the eleven structures looks like this:

(as NP VP) (prep NP)X(prep NP)^{R}(Adv)(NP being V-ed)(to V NP)(and V-ed)

(V-ing)(NP V-ing NP)(and)

This formulae now accounts for 80% of the passage's sentences. The less frequent structures NP be Adj and NP V (prepNP) are next dealt with. As it turns out, the NP be Adj structure does not appear with any optional structure other than and, and the single NP V structure appears with an and, an adverb and a prepositional phrase, so these are recorded thus:

NP be Adj (and)

(and) NP V (Adv) (prep NP)

So now we have an analysis of the frequency and kind and structure of the sentences in the given passage:

Kinds of sentence:	Simple	Compound	Complex	Compound-complex
Number:	5	3	1	1
Rate of use:	50%	30%	10%	10%

Basic Sentence Structures:

1. (80% rate of use)

(as NP VP)(prep NP)NP be V-ed(prep NP)^{R}(Adv)(NP being V-ed)(to V NP)

(and V-ed)(V-ing)(NP V-ing NP) (and)

2. (15% rate of use)

NP be Adj (and)

3. (5% rate of use)

(and)NP V (Adv)(prep NP)

3. Synthesis from Formulae

Once the formulae and their rates of use have been derived from the model text, it is best to have students practice writing single sentences from the formulae so that they become familiar with the process. However, once the process is clear, they can immediately go straight to writing their own compositions, using only the formulae

derived at more or less the same rate of use. (In practice, the function of the composition--to describe, to narrate and so on--pretty well takes care of the rate of use, without conscious control by the student.)

Here is a process description, which uses only the derived formulae, of how a fire is started; the notation is indicated to show the underlying formulae:

"Some paper is collected and crumpled loosely in the fireplace.

NP be V-ed and V-ed Adv prep NP

Sticks of dry wood are spread over the paper, the sticks being

NP be V-ed prep NP NP being

placed to form a hollow square. Heavier wood is added to the

V-ed to V NP NP be V-ed prep

sticks. A match flame is applied to the crumpled paper, a long

NP NP be V-ed prep NP

holder sometimes being used to keep one's hands away from the fire.

NP Adv being V-ed to V NP prep NP

The paper burns fiercely and, as its heat rises to the sticks,

NP V Adv and as NP V prep NP

they are ignited. They burn slowly and after a few minutes the

NP be V-ed NP B Adv and prep NP

heavier wood is ignited. The fire is alight.

NP be V-ed NP be Adj

Commentary

Although this formulaic method might seem highly restrictive, in practice there is little appearance of it; the number of options and the variety of sentence kinds do a great deal to disguise the uniformity of main clause structure. Moreover, from an examination of many passages of different functions, it is clear that there is a very close correlation between function, sentence-structure and distribution of sentence-kinds, as the following table shows: (the data were four passages of each of three kinds of function--narration, instruction and description)

Kinds of Sentence	Narration %	Instruction %	Description %
Simple	26	60	50
Compound	26	5	30
Complex	26	21	10
Compound-complex	22	14	10

Basic Sentence Formulae and rates of use

Narration: NP VP (and NP VP) (V-ing) 52%

NP VP (which NP VP) (and) 48%

Instruction: (Adv) (when NP VP) $V^{Imperative}$ (by V-ing NP) (conj NP VP) 60%

NP be V-ed (to V NP) 15%

NP $\begin{matrix}\text{may}\\\text{could}\end{matrix}$ be V-ed (prep V-ing NP) (conj NP VP) 20%

NP VP (which NP VP)

Description:

(as NP VP) (prep NP) NP be V-ed(prep NP)^{R}(Adv) (NP being V-ed) (to V NP) (and V-ed)(V-ing) (NP V-ing NP)(and) %

80

NP be Adj (and) 15

(and)NP V (Adv)(prep NP) 5

Thus, the formulae and proportions of use merely reflect the 'style' of each function. Of course, style is a restriction of options in a given communication situation and arises from the kind of function being expressed. It is natural that a description should have a high rate of be structures in that it is concerned with predicating a characteristic of an object or process.[5] It is equally natural that a narration should have a high proportion of sentences in the active voice with semantically 'full' verbs, as it is concerned with activity; the greater variety of sentence structure in narration arises from a need to change pace, whereas such variety is not as important in description. The comparative analysis of different kinds of discourse is, I think, an indication of the varying degree of difficulty in writing that a learner might encounter. For example, the strain on verb vocabulary is very high in narration, whereas it is low in description; as verbs form a small proportion of

the English lexicon and seem to be acquired late, it might be better to have learning writers tackle description first.[6] Yet we tend to have young students write narrations first.

Some objections might be made that derived formulae will not generate all descriptive modes. Indeed they will not. They are meant as, and function as, locally productive formulae, not a universal theory (such as a syntactic grammar might aim at.) They are akin to recipes and knitting patterns, rather than to a theory of food or clothing. However, a locally productive, and instantly usable, formula is surely what a learner wants, in that it is directly under his control and will never generate deviant expressions. When we start to learn a foreign language, locally productive rules are exactly what we want. Even in terms of a native speaker's performance capacity in his own language, local rules that never reach the generative capacity of an ideal 'competence' model dominate that speaker's use of his language; in other words, none of us speaks the whole of his language.

In conclusion, I should like to ask anyone who tries this method to let me know of success and failure alike. There are many refinements that could be made, and there might be parts which should be simplified. My own experience, however, has revealed that this method has worked well, particularly with those students, native and non-native speakers of English alike, who make up our freshman remedial English classes. With the co-operation of others who may try this method, it might be improved and broadened in its scope.

Footnotes

1. An argument on the historical, theoretical and pragmatic support for a formulaic approach is to appear shortly in English Quarterly.

2. In verse writing a formulaic method has been advocated and demonstrated by Brian Powell.

3. B. and R. Vale, The Autonomous House, Thames and Hudson, London 1975, p. 57. The publisher's permission to reprint this passage is hereby acknowledged with gratitude.

4. In this notation,

NP = Noun Phrase

VP = Verb Phrase

V = verb

V-ed = verb past participle

prep = preposition

Adv = adverb

Adj = adjective

and = formula may be repeated to form a compound sentence

5. In English, whether the be is followed by a V-ed or an adjective is not significant in that agentless V-ed forms are ambiguously verbal and adjectival; consider the door is open (adjective) versus the door is closed (adjectival or verbal?)

6. The preliminary results of a writing assessment programme recently undertaken in British Columbia seem to confirm that students find narration more difficult than description and argument.